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(54) **SELF-CONTAINED THERMALLY ACTUATED FLOW-CONTROL ASSEMBLY**

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CPC ***F03G 7/06*** (2013.01); ***F16K 31/002*** (2013.01); ***G05D 23/021*** (2013.01); ***G05D 23/022*** (2013.01); *Y10T 137/7737* (2015.04)

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See application file for complete search history.

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(57) **ABSTRACT**

A self-contained thermally actuated flow-control valve assembly comprises a base, an actuator, and a return member. The base has a longitudinal axis, a stop surface and a retention wall. The actuator has a generally cylindrical guide, a piston, a diaphragm, a thermally active pellet, and a generally cylindrical cup. The guide has an exterior surface on which a plurality of retention members are configured. The piston assembly is coaxial with the longitudinal axis. The generally cylindrical cup has a leading wall, a sidewall contiguous with the leading wall, and a trailing shoulder axially opposite the leading wall. The return member has axially opposed first and second ends. The first end engages the retention members and the second end engaging the base. The return member exerts a biasing force on the actuator axially towards said base. The actuator exerts a variable actuating force in a direction axially opposite the biasing force.

23 Claims, 8 Drawing Sheets